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GENERAL NEWS

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HIGH SPEED JOB STREAM ACCESS CONTROL

Background

At a meeting held on June 25, 1976, the Advising Committee on Computing Facilities and Services approved a UTCC proposal to provide an Access Control mechanism for the High Speed Job Stream. An HSJS Access Control system will provide a mechanism to account for the use of HSJS resources. The data obtained can be used for evaluating alternative methods of delivering HSJS service and can be used to provide equitable allocation of HSJS resources.

Two Access Control schemes were proposed: a token scheme and a variable run account scheme. The ACCFS requested that UTCC confer with instructors who use the HSJS in their course work and base the final selection on the consensus obtained. The meeting to discuss the two schemes with the instructors was held Friday, July 16, 1976.

The discussion at the users´ meeting addressed three possible problem areas: the cost of implementing and maintaining each Access Control scheme versus any possible long-range savings which might be realized directly or indirectly as a result of either scheme; the impact each scheme would have on the instructors´ work load i.e. how much additional interfacing with students and UTCC would be required and thirdly, the impact each scheme would have on the HSJS users (with both UTCC and the instructors wishing to avoid making the procedures for accessing the HSJS too complicated).

After some discussion the group concluded that the variable run account scheme should be adopted. Although the token scheme offered some advantages in terms of simplicity of administration, it failed to provide many of the data collection options available on the variable run account scheme. As the token system could be viewed as a subset of the variable run account scheme it was agreed that the more flexible variable run scheme should be adopted and those who preferred the token scheme could opt to ignore the various options and administer it like the token scheme. A description of the variable run account scheme follows.

Description of the Access Control Scheme

Each HSJS user authorized to use the system is assigned an account. Associated with each account is an eight character account number, a twelve character password, and a HSJS run limit.

The account number and password are preassigned by UTCC and are prepunched on a $ACCT control card. The course instructor establishes the run limit when he receives the $ACCT cards from UTCC. At that time the instructor may also initialize an optional course descriptor field which will appear on the user´s job output.

The $ACCT card is included in the HSJS job deck each time a user runs his job. If runs-to-date count exceeds the run limit or if the $ACCT card is invalid the job will not be run.

Using An HSJS Account

The first time that an HSJS $ACCT card is used, the user must include a special $NAME control card to record his name in the file with the account number. This name will then appear on every job run under that account. The user must punch the $NAME card in the

Cont´d...

HIGH SPEED JOB STREAM Cont´d

following format: $NAME in columns 1-5 followed by one or more blanks and the user name. The user should insert the $NAME card and the prepunched $ACCT card in his card deck after the $JOB card and then submit the job for the first run. In subsequent runs, the $NAME card need not be included and if included will be ignored. Note that the prepunched $ACCT card, containing the eight character serial number and corresponding twelve character password must be included each time a job is submitted.

Sample Job Setups

The job setup for the first run on account A7123456 (password ABCDEFGHIJKL) for John Doe would be:

```
$JOBx
$ACCT A7123456 ABCDEFGHIJKL
$NAME JOHN DOE

the program containing any
number of $CONTROL cards
    .
    .
    .

$DATA
    .
    .
    .

     data cards if any
```

In the above example, the name JOHN DOE will be attached to account A7123456 and will appear on the output from all jobs run on this account.

The job setup for subsequent runs by John Doe on account A7123456 would be:

```
$JOBx
$ACCT A7123456 ABCDEFGHIJKL

  the program containing
  any number of $CONTROL
  cards

$DATA

  data cards if any
```

Q: What is the charge for each HSJS run?

A: Currently, the user is not charged for a High Speed Job Stream job. The Access Control scheme is being implemented primarily to provide the University with more detailed information on HSJS usage for future planning.

Q: How does a course instructor set up high speed job stream access codes for his students?

A: The course instructor should contact the UTCC Accounting Office and supply the following information: the S/370 Service Access Code, the password, the number of HSJS accounts desired, the run limits and the optional class description to be used. UTCC will then supply the user with the required number of $ACCT cards and with a computer list of the serial numbers of the accounts. This list can be used by the instructor to record the names and signatures of the students The accounts will be activated immediately by UTCC.

Q: How does a student enrolled in a University of Toronto course get an account?

A: Normally users will receive the $ACCT card from their course instructor. Users who have a S/370 Services Access Code may run HSJS jobs under their S/370 Services Access Code.

Cont´d...

HIGH SPEED JOB STREAM Cont´d

Q: How does a General Purpose Job Stream user access the HSJS service?

A: If a user already has a S/370 Services Access Code , High Speed Job Stream jobs may be run using this code by using the following deck setup:

```
//jobname JOB (TY,1234,abcd),
     ´programmername´,CLASS=W
$JOBx
   .
   .
   .
$DATA
   .
   .
   .
  data cards if any
```

where:

1234 is the Service Access Code
abcd is the Password for the Service Access code.
jobname is an 8 character jobname composed of alphabetic characters
programmername may be used for identifying the output.

Q: How does a Research user access the HSJS?

A: A research user may run on the HSJS under his S/370 Services Access code. Research users who do not have a S/370 Services Access Code should contact their Department Computer Representative who will arrange to have a code assigned.

Q: How do other users affiliated with the University receive HSJS accounts?

A: Other users affiliated with the University who wish to establish HSJS accounts should contact a UTCC Computing Co-ordinator at any of the terminal locations.

Q: How do non-University users establish an HSJS account?

A: Non-University users who wish to establish an HSJS account should make the necessary arrangements through the UTCC Accounting Office in the Sandford Fleming Building, Room SF 139.

Q: How does a high school student establish a UTCC HSJS account?

A: High school students may receive accounts through their school principal. The principal must make a formal request in writing to Don Gibson in the UTCC Information Office, Sandford Fleming Building, Room SF 128.

Q: What can be done about lost or stolen accounts?

A: The user should contact the individual who originally distributed the $ACCT to him. This individual will be authorized to have UTCC invalidate the missing account and arrange to have a new account issued.

Q: What type of reporting on HSJS usage will be available for the $ACCT user?

A: The instructor who establishes HSJS $ACCT´s will receive a monthly report listing the total number of runs-to-date, run limit, and student name for each account that was assigned. Each time a HSJS job is run the job output will contain the total number of runs-to-date, run limit, and student name for the $ACCT used.

Questions regarding the High Speed Job Stream Access Control system should be directed to the Computing Co-ordinators, or Stan Yagi at 978-7331.

Stan Yagi/Mark Tapia

ATTENTION ALL COMPUTERNEWS SUBSCRIBERS

We are housecleaning our newsletter mailing list. All subscribers are asked to complete the COMPUTERNEWS ADDRESS FORM appearing at the back of this issue of COMPUTERNEWS. The form is pre-addressed and can be returned free-of-charge via campus mail.

In order to continue receiving COMPUTERNEWS, subscribers must complete and return the ADDRESS FORM before Tuesday, September 21, 1976. If the form is not returned, the subscriber's name will be dropped from the mailing list. Subscription changes will go into effect with the September 1976 issue of COMPUTERNEWS. Enquiries concerning COMPUTERNEWS subscriptions should be directed to Mary Alkenbrack at 978-4990.

Janet Campbell

ACM'76 TO HOST U.S. COMPUTER CHESS CHAMPIONSHIP

Entries are now being solicited for the 7th Annual U.S. Computer Chess Championship to be held October 19-21, 1976 in conjunction with the ACM Annual Conference in the Hyatt Regency Hotel, Houston, Texas. A four round Swiss-style tournament is planned with the first round on Tuesday, October 19 beginning at 8 p.m. and the final round on Thursday, October 21 at 8 p.m. The field will be limited to 12 teams. David Levy, International Chess Master from England, will serve as tournament director.

For further information and an entry form write to Dr. Munroe Newborn, School of Computer Science, McGill University, Montreal, Quebec H3C 3G1.

COMPUTER-CHESS WORKSHOP REPORT

by T. A. Marsland

The following article originally appeared in the University of Alberta Computing Services Bulletin, Volume 10, Number 15, July 16, 1976 and is reprinted with the permission of the Bulletin's editor.

During the June 26-27 weekend a specialized workshop designed to measure computational efficiency of a variety of computer-chess programs was held at the University of Alberta. Programs from McGill (OSTRICH), Toronto (CHUTE), Waterloo (TREEFROG), Alberta (WITA), Michigan (CHAOS), Colorado (SHRDLU), and also from industry, BELLE (Bell Labs.), and COKO (Western Electric), were submitted. Five of these programs were installed on the Amdahl computer, making the event unique in that this is the largest number of chess programs that have executed simultaneously on a single computer. The others used small machines in the Computing Science Department.

The airline strike prevented the installation of a sixth program from Manitoba (BRUTE), and also made it impossible for many of the authors to participate in the discussion groups. However, Prof. Ken Thompson of Berkeley (and Bell Labs) and Dr. Steven Soule of Calgary along with several Computing Science graduate students provided the necessary manpower to complete the experimental portion of the work. These experiments

Cont'd...

WORKSHOP REPORT Cont'd

consisted of exhibition matches between selected programs, measurements of memory and processor requirements, and production of frequency distributions of instructions executed.

The results of the competition portion of the workshop are presented in the table. One should not, however, deduce that OSTRICH is the best of the current batch of the chess programs. In the past it has been outperformed by both TREEFROG and SHRDLU, and part of their recent difficulties may be attributable to inadequate conversion to our installation, or to lack of our experience in setting their real time controls. Had the airline strike not prevented the participation of their authors this aspect of the work might have been dramatically different. Four programs finished equal third. Of these CHAOS is probably the best, but the customary tie breaking algorithm gave the third position to the local entrant.

Many people contributed to the successful completion of these experiments. The efforts of Y. Arunkumar to install the CHUTE program were appreciated, the task being made easier by the availability of the FAKEOS system designed by C. Benet.

Finally I would like to thank Dr. D. Bent and Henry Ewasechko of Computing Services for their help and encouragement during the planning stages of this workshop, and also recognize the assistance of A. Covington, W. Neilson, N. Simhan and R. Willoner in monitoring the various programs.

Program	Author Newborn	Valenti	Marsland	Swartz	Thompson	Cooper	Courtois	Hansen		MACHINE Memory** Language
OSTRICH McGill		1/2 B	1 W		1 W			1 B	3 1/2	OMI (NOVA) 32 Kb Assembler
CHUTE Toronto	1/2 W		1/2 W	1 B				1 B	3	AMDAHL 392 Kb XPL
WITA Alberta	0 B	1/2 B		1/2 B		1 W			2 (10 1/2)*	AMDAHL 376 Kb Algolw
CHAOS Michigan			1/2 W			1/2 B	1 B		2 (8)*	AMDAHL 376 Kb Fortran
BELLE Bell Lab.	0 B	0 W				1/2 W	1/2 W	1 W	2 (7)*	PDP 11/45 42 Kb C+ Assembler
COKO Western Electric			0 B	1/2 W	1/2 B		1 W		2 (6 1/2)*	AMDAHL 420 Kb Fortran
SHRDLU Colorado				0 W	1/2 B	0 B		1/2 W	1	OMI (NOVA) 32 Kb Assembler
TREEFROG Waterloo	0 W	0 W			0 B		1/2 B		1/2	AMDAHL 180 Kb Fortran

* Tie break = sum of opponent's score

** Memory size is expressed in Kilo-bytes for uniformity

MYTHS ABOUT ERASURES DISPROVEN

This article is adapted from ´Erasing Myths About Magnetic Media´, by Sidney B. Geller, Datamation, March 1976.

Is there a programmer who has not at some time felt that malevolent forces were conspiring to erase his magnetic tapes, destroying (the only copy of) his most precious data? The average programmer gains much of his tape knowledge by word of mouth from other programmers, and a body of folklore has accumulated about magnetic storage. For example, everyone knows that X-rays can erase a tape in a few seconds (don´t they?)

The National Bureau of Standards Institute for Computer Science and Technology exploded some of these beliefs with rigorous experiments to determine the truth about erasing magnetic tapes. Some of their findings:

The Myth

When the night watchman puts his flashlight with a magnetic holder on the tape storage rack, it´s likely to cause data loss on several tapes.

The Truth

A horseshoe magnet strong enough to lift 40 lbs. was placed in direct contact with the outer flange of a tape reel. The signal level on the first 350 feet of the tape was reduced by up to 80 percent, causing the loss of data. Beyond 350 feet, there was no loss of data. When the same magnet was held one inch from a tape, no loss of data resulted.

Magnetic field strength falls off approximately as the cube of the distance from the magnet. Thus, distance from the magnet is much more important than the size of the magnet. For example, a magnet with a 40 lb. pull, held at a distance of two inches, sets up a magnetic field only one-fourth as strong as a magnet with a 20 lb. pull held at a distance of one inch.

Technically, magnetic field strength is measured in oersteds (Oe.). The horseshoe magnet used by the NBS was a 1,000 Oe. magnet. The read/write head of a tape drive typically has a field strength of 750 to 1,500 Oe. A strength of 200 Oe. is usually sufficient to cause data loss on a tape, but 150 Oe. is not.

The conclusion is that almost any small magnet can cause data loss when placed in direct contact with a tape, but at even a small distance, the chance of data loss is negligible.

The Myth

Airport metal detectors can erase tapes.

The Truth

Tests performed at Washington National and Dulles International airports showed no instance of erasure or data loss after tapes were moved through metal detectors in many different locations within the detector. The magnetic field of 5 Oe. used by these devices is far too weak to cause any significant signal loss. Handheld metal detectors caused no data loss, nor did X-ray inspection. The tape user can set his mind at ease in airports.

Cont´d...

MYTHS Cont´d

The Myth

Hiding a magnet in a tape vault will gradually erase recorded data.

The Truth

The time exposed to a magnet is not a factor. The particles in a recorded tape change their signal levels and magnetic directions in a few billionths of a second. If the magnet is strong enough to erase, it will do so immediately.

The Myth

A large electromagnet, such as the type used for lifting scrap metal in a junk yard, could be concealed in a van outside a computer centre and a properly aimed burst of magnetism could erase all the tapes within.

The Truth

This theory was tested in a scrap yard by placing a large lifting magnet directly over tapes. Again, it is the distance from the magnet that is most important. At 1.3 feet, the closest distance tested, there was no loss of data.

The Myth

X-rays erase tapes.

The Truth

X-ray intensities sufficient to kill a man caused no loss of data.

The Myth

Radiation around a microwave oven can erase tapes.

The Truth

Cassettes were warmed inside a microwave oven with no loss of data.

The Myth

Radar signals are a danger to magnetic tapes.

The Truth

A tape placed for ten seconds at a distance of ten feet from an x-band transmitter operating at 500,000 watts of peak power showed no loss of data.

The Myth

Nuclear radiation can erase tapes.

The Truth

Three megarads of gamma radiation over a 1 1/2 hour period caused no loss of data.

Magnetic storage devices were also found to withstand extreme environmental conditions such as heat (over 93 degrees Celsius), cold (below 15.6 degrees Celsius), and pressure (one ton). These extreme conditions may affect the physical qualities of the device, but not the magnetism.

It has been found that data loss can occur on computer tapes that are unused for a long period. Tapes, being made of plastic, have certain flow tendencies and can actually stretch or deform slightly when unused for long periods. This effect can be minimized by regular unwinding and rewinding of tapes.

As a result of its study, NBS came to these conclusions:

Cont´d...

MYTHS Cont´d

-- Magnetic storage devices are the most reliable available.

-- They are more vulnerable to physical deterioration than to loss of data.

If exercised regularly and handled properly, their theoretical lifetime is almost endless.

PERSONNEL CHANGES

We have three new employees to welcome this month. JoAnne Grayson has replaced Vikki Coulson as secretary in the Services area at 49 St. George Street. Kathryn Bourne joined the Publications group, replacing Lynne Jenkins and Isabel Dunlop replaced Ingrid Fraser in Sandford Fleming I/O.

Leaving this month are Grace Belanger, Ingrid Fraser, Tom Fujiwara, John Lees, Jaime Menendez and Dave Van den Avont.

Tom Fujiwara is leaving to become a senior operator with Bell Canada. During his 7 1/2 years at UTCC, Tom has made many significant contributions to the Operations area. For the past five years he was a senior console operator on the S370-165-II.

I know that both fellow workers and members of the user community join me in wishing Tom every success in his future endeavours.

Grace Belanger of the Administration/Accounting area, has completed 10 years of valued service with UTCC. We are most grateful to Grace for her contribution and her loyalty and we extend best wishes for her future.

Our best wishes go with all our staff members who are leaving.

June Bridges

RECENT ACQUISITIONS IN THE DEPARTMENT OF COMPUTER SCIENCE LIBRARY

Berger, Raymond M.
Computer Programmer Job Analysis.
Montvale, N.J., AFIPS, 1974.

Blake, Ian F. and Mullin R.C.
The Mathematical Theory of Coding,
New York, Academic Press, 1975.

Conway, R.W. and Gries, D.
A Primer on Structured Programming Using PL/1, PL/C and PL/CT.
Cambridge, Mass., Winthrop, 1976.

Dijkstra, Edsger W.
A Discipline of Programming.
Englewood Cliffs, N.J., Prentice-Hall, 1976.

Klatzky, Roberta L.
Human Memory: Structures and Processes.
San Francisco, W.H. Freeman, 1975.

Lewis, T.G. and Smith M.Z.
Applying Data Structures.
Boston, Houghton Mifflin, 1976.

Manitoba Conference on Numerical Mathematics and Computing, 5th, Winnipeg, 1975.
Proceedings, ed. by B.L. Hartnell and H.C. Williams.
Winnipeg, Utilitas Mathematica Pub., 1976.

Mano, M. Morris.
Computer System Architecture.
Englewood Cliffs, N.J., Prentice-Hall, 1976.

NATO Advanced Study Institute on New Concepts and Technologies in Parallel Information Processing, Capri, 1973.
New Concepts and Technologies in Parallel Information Processing, ed. by E.R. Caianiello.
Leyden, Noordhoff, 1975.

Cont´d...

RECENT ACQUISITIONS Cont´d

Naur, Peter.
Conc-se Survey of Computer Methods.
New York, Petrocelli Books, 1974.

Späth, Helmuth.
Spline Algorithms for Curves and Surfaces. Tr. from the Terman.
Winnipeg, Utilitas Mathematica Pub., 1974.

Wirth, Niklaus.
Algorithms + Data Structures = Programs.
Englewood Cliffs, N.J., Prentice-Hall, 1976.

ATTENTION NSCRIPT USERS

UTCC has now received the Waterloo version of NSCRIPT. This is a major update to the system and includes the following upgrades (among others):

- compatibility with IMS-TSO "FORMAT" program
- clarification and consistency of operands, e.g. yes/no, on/off, etc.
- CENTER ON/OFF for centring multiple lines
- enhanced conditional formatting, revision markers and indexing capability
- enhanced underscore facilities
- ATS to NSCRIPT conversion program

This version will become the default for the TSO ´NSCRIPT´ command (and alias NS) as well as the batch procedure SCRIPT, on or about August 29, 1976. The old version will remain available for a month or two following that date. Users who need to continue using the old version should contact Ian Darwin.

Only one incompatability in the control word input has been noticed. The ´Read Control´ (.RC) word has been renamed to ´TErminal input´ (.TE). ´.RC´ is now used for revision codes. The TSO prompter does not provide dsname qualifiers, thus:

old:

```
ns   xxx
```

or

```
ns   xxx.script
```

new:

```
ns   xxx.script
```

This second inconsistency will be corrected.

The USERBOOK module, 3.3NSCRIPT is currently being revised and will consist of a short introduction and reference summary only. Users who need the complete reference manual will find the required JCL for having it printed in the new module.

Any problems and suggestions should be directed to Ian Darwin at 978-7318, 49 St. George, Room 303.

Ian Darwin

SPEAKEZ SESSIONS - FEDEASY

UTCC has installed the LAMBDA+ version of SPEAKEZ (cf. CN #137). No problems have been reported. Since the latest FEDEASY package was on the same tape, it has been restored to disk as well.

No software changes and only minor JCL changes were required at UTCC to make these extensions available. The main areas of these extensions are time series analysis and other statistical procedures. The standard HELP structure has been followed; thus, HELP FEDEASY lists major areas such as ESTIMATION; HELP for each area (i.e. HELP ESTIMATION) gives a list of words in that area. Users should browse through these words to get acquainted with FEDEASY.

There is one problem which can arise on TSO usage. Since the HELP files are allocated dynamically when needed, and since there is a limit to the total number of files

Cont´d...

SPEAKEZ SESSIONS Cont'd

a given TSO session can have allocated at any time, it is possible that at some point a HELP command will be unable to allocate a file. In this case, the message "XXX HAS NO DOCUMENT" will be issued. If the user knows there *is* a document he should:

```
checkpoint (if needed)
quit
free (un-needed files)
sr (to restart)
restart (from checkpoint)
help xx
```

Any other problems should be reported to Ian Darwin at 978-7318, 49 St. George, Room 303.

Ian Darwin

GPJS - SOFTWARE USAGE STATISTICS

The following chart summarizes the software usage per classified procedure and program names for the General Purpose Job Stream from June 4, 1976 to July 5, 1976.

Software	Uses (Jobsteps)	(%)
ALGOL	82	0
APLSV	21	0
ASM	512	2
COBOL	193	0
CSMP	33	0
DATATEXT	151	0
DBUGUTIL	26	0
DISKUTIL	1,890	7
DSUTIL	4,527	18
DYNAMO	17	0
FORMAC	14	0
FORTRAN	7,471	30
GPSS	34	0
GRAPHICS	1,409	5
JCLUTIL	176	0
MARKEXAM	11	0
MARKIV	644	2
MPS/MPSX	28	0
OSUTIL	296	1
PAPERTAP	129	0
PL/I	1,742	7
RPG	58	0
SAS	28	0
SERVAID	254	1
SNOBOL	576	2
SORTMERG	1,028	4
SPEAKEZ	52	0
SPSS	1,982	8
SSP/BMDD	272	1
TAPEUTIL	550	2
TIPRS	29	0
TSO	50	0
WYLBUR	9	0
XFR	341	1
TOTAL	24,635	

Kin Fong

HSJS MONTHLY STATISTICS

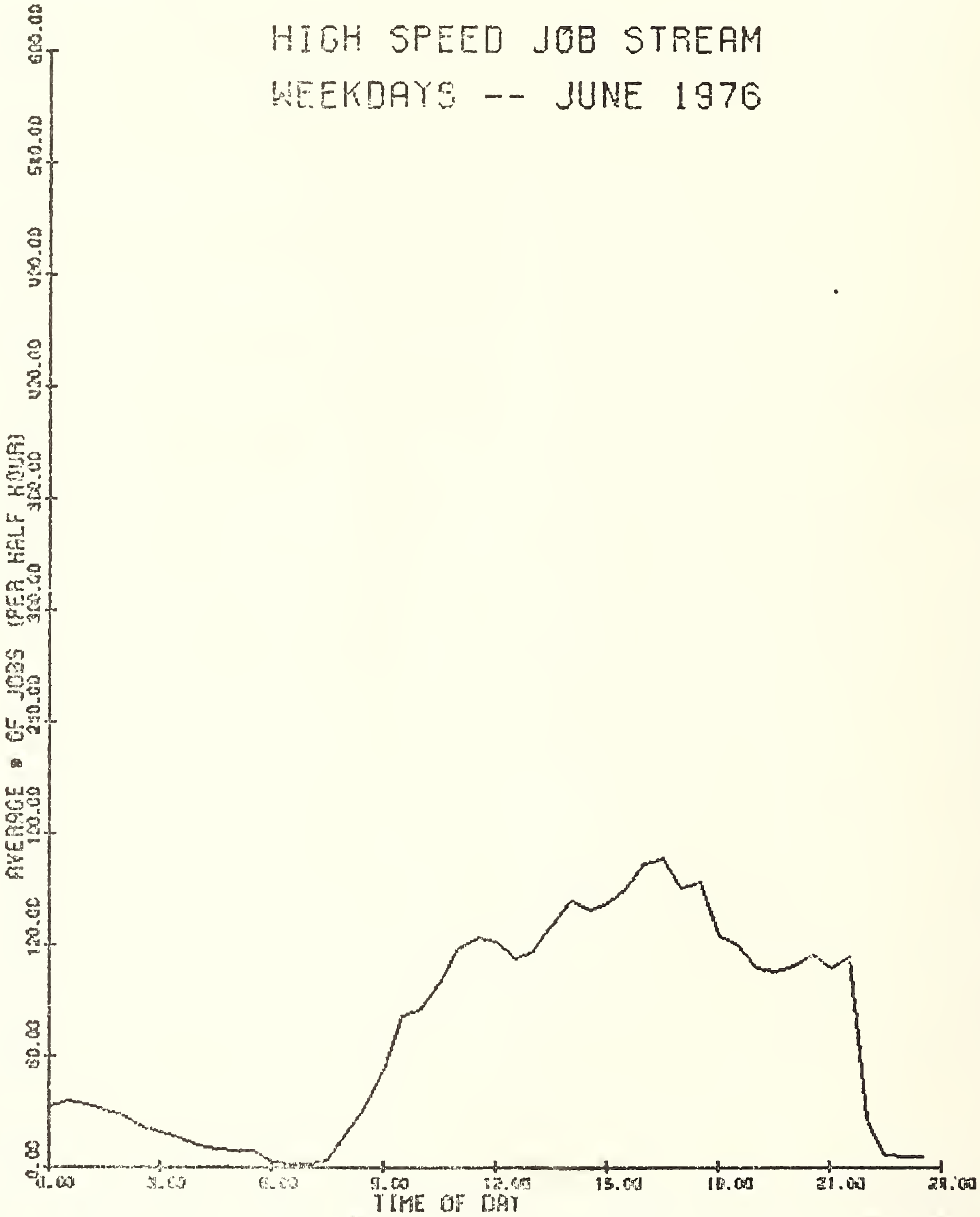
During the month of June 1976, 93,726 jobs were processed compared with 80,811 jobs for the previous year, an increase of 16%.

The following charts summarize the HSJS activity for the month of June. The graph represents the average number of jobs processed during each half hour period of the day.

Mark Tapia

```
RESOURCE_USAGE_BY_PROCESSOR

                              ||        TOTAL PER PROCESSOR          ||     AVERAGE PER USE       |
                              ||   CPU   |  #CARDS  |   #LINES       ||  CPU   |#CARDS |  #LINES  |
PROCESSOR | #USES %TOTAL||  (MIN)   |   READ    |  PRINTED   || (MIN)  | READ  | PRINTED  |
--------------------------------------------------------------------------------------------------
WATFIV     | 57047   (61)  ||   813.99 | 10273940 | 10690934 || 0.012 |  180  |   184    |
SP/K       | 12789   (14)  ||   154.92 |  1057998 |  2000551 || 0.012 |   80  |   156    |
PL/C       | 12088   (13)  ||   229.37 |  2559061 |  3784459 || 0.016 |  208  |   312    |
UTILITY    |  4316   ( 5)  ||    13.72 |   676155 |   861473 || 0.000 |  156  |   196    |
SP/KM      |  2312   ( 2)  ||    18.95 |    88411 |   149753 || 0.008 |   36  |    64    |
ASMG       |  1436   ( 2)  ||    27.87 |   274502 |   360973 || 0.016 |  184  |   240    |
SPITBOL    |  1172   ( 1)  ||    12.43 |   151718 |   224256 || 0.008 |  129  |   188    |
SPSSO      |   770   ( 1)  ||    14.49 |   115883 |   140491 || 0.016 |  148  |   180    |
WATBOL     |   663   ( 1)  ||     3.62 |   163178 |   187265 || 0.012 |  244  |   280    |
ALGOLW     |   573   ( 1)  ||    10.60 |   113540 |   136698 || 0.016 |  196  |   236    |
UTILITY    |   268   ( 0)  ||     0.96 |    54130 |    55370 || 0.000 |  200  |   204    |
PLUTO      |    85   ( 0)  ||     2.03 |     3101 |     6617 || 0.023 |   36  |    76    |
ASSIST     |    59   ( 0)  ||     0.16 |     1395 |     7744 || 0.000 |   20  |   128    |
$          |    50   ( 0)  ||     0.12 |     6144 |     6625 || 0.002 |  120  |   132    |
UTILITY    |    25   ( 0)  ||     0.10 |     5877 |     6144 || 0.004 |  232  |   244    |
SIMON      |    17   ( 0)  ||     0.05 |      200 |      503 || 0.003 |    8  |    32    |
LISP       |     6   ( 0)  ||     0.04 |      336 |     1032 || 0.004 |   56  |   172    |
SNAP       |     0   ( 0)  ||     0.00 |        0 |        0 || 0.000 |    0  |     0    |
--------------------------------------------------------------------------------------------------
TOTAL        93726          ||  1309.82 | 15545569 | 18621163 || 0.014 |  165  |   198    |
```


HIGH SPEED JOB STREAM
WEEKDAYS -- JUNE 1976
AVERAGE # OF JOBS (PER HALF HOUR)
0.00
60.00
120.00
180.00
240.00
300.00
360.00
420.00
480.00
540.00
600.00
0.00
3.00
6.00
9.00
12.00
15.00
18.00
21.00
24.00
TIME OF DAY

S/370-165-II RELIABILITY

The reliability statistics for June indicate an uptime percentage of 96.5 while the average number of unscheduled IPL´s per day reached 0.97. The number of scheduled hours of production for June totalled 504.

MONTHLY COMPARATIVE FIGURES

MONTH	% UPTIME	UNSCHED. IPLs/DAY
Jan/75	95.7	2.77
Feb/75	96.0	1.14
Mar/75	96.7	1.10
Apr/75	98.6	0.70
May/75	99.4	0.60
Jun/75	97.4	0.79
Jul/75	95.2	1.23
Aug/75	97.6	0.83
Sep/75	99.1	0.87
Oct/75	97.2	1.13
Nov/75	95.8	1.63
Dec/75	99.4	0.48
Jan/76	99.1	0.43
Feb/76	98.9	0.97
Mar/76	96.8	1.03
Apr/76	99.3	0.52
May/76	98.8	0.67
Jun/76	96.5	0.97

The percentage breakdown for total system downtime for June was:

HARDWARE: 829 minutes (78.2%)
SOFTWARE: 73 minutes (07.0%)
OTHER : 157 minutes (14.8%)

The major events contributing to these downtime totals were as follows:

June 1 - 29 minutes down - 3 IPL´s

- All time attributed to problems with the 2944 interface control to ASUT. It was necessary for the operator to power the unit off to circumvent errors. A bad card was replaced by IBM.

June 10 - 321 minutes down - 3 IPL´s

- 9 minutes charged to a loss of TSO and APLSV response. An IPL rectified the problem.
- 312 minutes due to numerous channel detected errors on the ITEL controller attached to channel 3. The operator was unable to reload the system with the control unit online. ITEL corrective maintenance replaced several bad cards.

June 15 - 135 minutes down - 2 IPL´s

- All time resulted from ITEL corrective maintenance on memory when the operator was unable to reload the system with the third and fourth megabytes online. The production system was run with only two megabytes while awaiting maintenance. The problem rectified itself without a definite solution being found at the time. Preventive maintenance the following day forced a re-occurrence of the errors and a bad card was replaced.

June 19 - 134 minutes down - 1 IPL

- 129 minutes attributed to a breakdown in the air-conditioning system in the main machine room. The temperature reached a high of 81 deg. before Physical Plant rectified the problem.

Cont´d...

RELIABILITY Cont´d

- 5 minutes charged to a re-occurrence of problems in the third and fourth megabytes of memory. They were re-configured offline to await ITEL maintenance and to allow production to continue. Engineers re-seated a number of cables and the errors were temporarily resolved.

June 21 - 92 minutes down - 1 IPL

- All time due to continuing corrective maintenance on the third and fourth megabytes of memory by ITEL engineers. A number of cards were re-seated plus a general tightening of power cables resulted in a final solution to the problems.

June 23 - 26 minutes down - 4 IPL´s

- 7 minutes due to a 6-step supervisor loop in protect key B. An IPL resolved the problem.

- 19 minutes attributed to double bit errors in ITEL memory. A bad card was replaced.

June 26 - 177 minutes down - 2 IPL´s

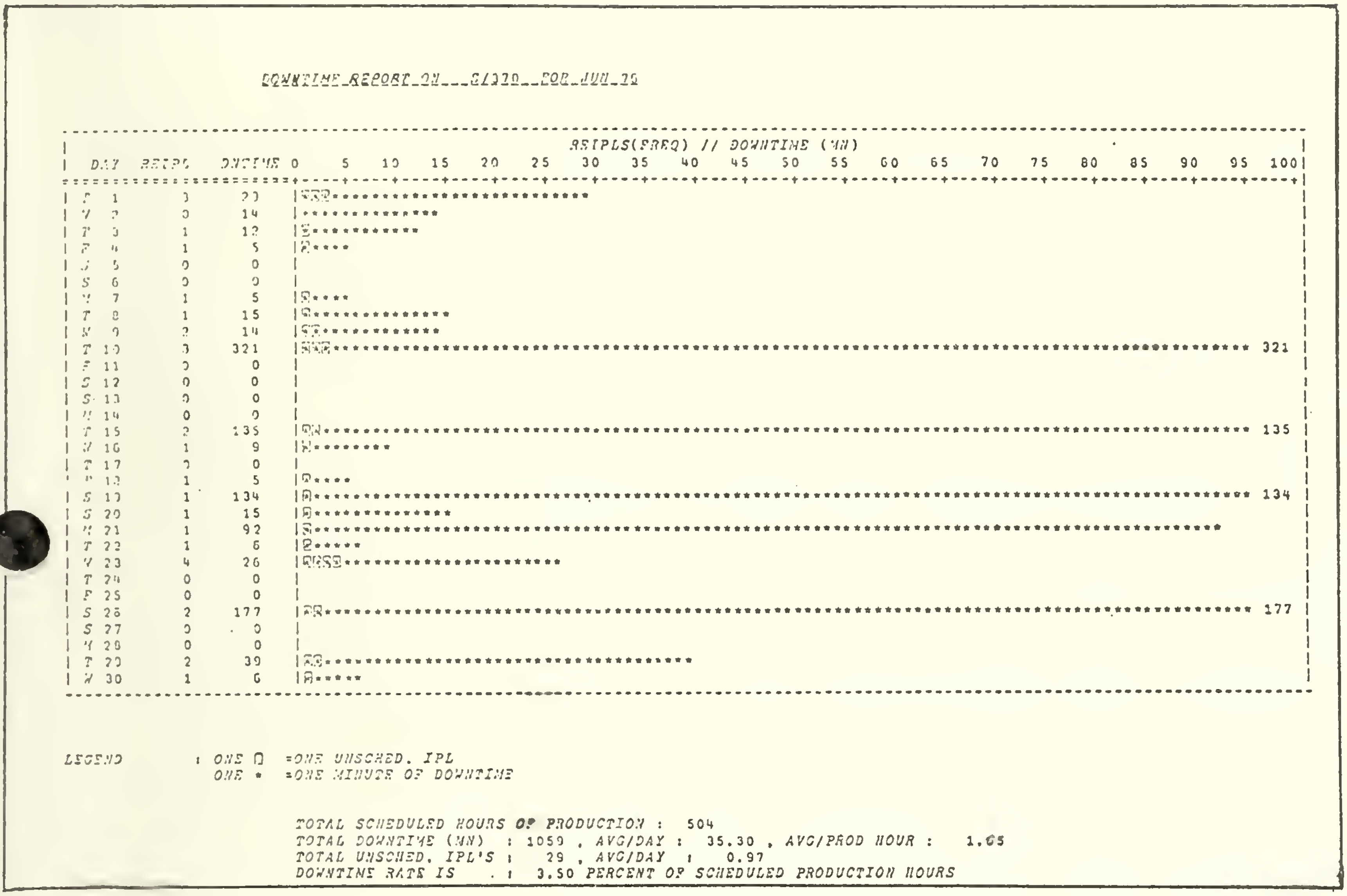
- All time resulted from numerous hardware errors on the 7330 controller attached to channel 3. The operator was unable to reload the system with the unit online. ITEL corrective maintenance replaced a number of bad cards. The identical problem re-occurred later in the day and again a number of cards were swapped to provide a final solution.

June 29 - 39 minutes down - 2 IPL´s

- 28 minutes charged to numerous channel detected errors on the STC tape drives which resulted in an IGF002W machine error and A05 wait. STC maintenance replaced a bad card in the controller.

- 11 minutes due to a HASP catastrophic error. An IPL rectified the problem.

Paul Scarborough



```
                              DOWNTIME_REPORT_ON___S/370__FOR_JUN_82

-------------------------------------------------------------------------------------------------------------------------------------
|                                                             RSIPLS(FREQ) // DOWNTIME (MN)                                          |
|  DAY  RSIPLS    DNTIME  0    5   10   15   20   25   30   35   40   45   50   55   60   65   70   75   80   85   90   95  100      |
==========================+----+----+----+----+----+----+----+----+----+----+----+----+----+----+----+----+----+----+----+----+
| T  1       3        29  |☐☐☐**************************
| W  2       0        14  |**************
| T  3       1        12  |☐***********
| F  4       1         5  |☐****
| S  5       0         0  |
| S  6       0         0  |
| M  7       1         5  |☐****
| T  8       1        15  |☐**************
| W  9       2        14  |☐☐************
| T 10       3       321  |☐☐☐************************************************************************************************* 321
| F 11       0         0  |
| S 12       0         0  |
| S 13       0         0  |
| M 14       0         0  |
| T 15       2       135  |☐☐************************************************************************************************** 135
| W 16       1         9  |☐********
| T 17       0         0  |
| F 18       1         5  |☐****
| S 19       1       134  |☐*************************************************************************************************** 134
| S 20       1        15  |☐**************
| M 21       1        92  |☐*******************************************************************************************
| T 22       1         6  |☐*****
| W 23       4        26  |☐☐☐☐**********************
| T 24       0         0  |
| F 25       0         0  |
| S 26       2       177  |☐☐************************************************************************************************** 177
| S 27       0         0  |
| M 28       0         0  |
| T 29       2        39  |☐☐*************************************
| W 30       1         6  |☐*****
-------------------------------------------------------------------------------------------------------------------------------------

LEGEND        : ONE ☐  =ONE UNSCHED. IPL
                ONE *  =ONE MINUTE OF DOWNTIME

                         TOTAL SCHEDULED HOURS OF PRODUCTION :  504
                         TOTAL DOWNTIME (MN)  : 1059 , AVG/DAY :  35.30 , AVG/PROD HOUR :   1.05
                         TOTAL UNSCHED. IPL'S :   29 , AVG/DAY  :   0.97
                         DOWNTIME RATE IS    . :  3.50 PERCENT OF SCHEDULED PRODUCTION HOURS
```

```
                         DOWNTIME_REPORT_ON___S/370__FOR_JUN_76

----------------------------------------------------------------------------------------------------------------------------
|                                                        REIPLS(FREQ) // DOWNTIME (MN)                                     |
| DAY  REIPL   DNTIME 0    5    10   15   20   25   30   35   40   45   50   55   60   65   70   75   80   85   90   95  100|
=====================+----+----+----+----+----+----+----+----+----+----+----+----+----+----+----+----+----+----+----+----+
| T  1     3      29 |□□□**************************
| W  2     0      14 |**************
| T  3     1      12 |□***********
| F  4     1       5 |□****
| S  5     0       0 |
| S  6     0       0 |
| M  7     1       5 |□****
| T  8     1      15 |□**************
| W  9     2      14 |□□************
| T 10     3     321 |□□□********************************************************************************************* 321
| F 11     0       0 |
| S 12     0       0 |
| S 13     0       0 |
| M 14     0       0 |
| T 15     2     135 |□□********************************************************************************************** 135
| W 16     1       9 |□********
| T 17     0       0 |
| F 18     1       5 |□****
| S 19     1     134 |□*********************************************************************************************** 134
| S 20     1      15 |□**************
| M 21     1      92 |□*******************************************************************************************
| T 22     1       6 |□*****
| W 23     4      26 |□□□□**********************
| T 24     0       0 |
| F 25     0       0 |
| S 26     2     177 |□□********************************************************************************************** 177
| S 27     0       0 |
| M 28     0       0 |
| T 29     2      39 |□□*************************************
| W 30     1       6 |□*****
----------------------------------------------------------------------------------------------------------------------------

LEGEND      : ONE □  =ONE UNSCHED. IPL
              ONE *  =ONE MINUTE OF DOWNTIME

                    TOTAL SCHEDULED HOURS OF PRODUCTION :  504
                    TOTAL DOWNTIME (MN)  : 1059 , AVG/DAY :  35.30 , AVG/PROD HOUR :   1.05
                    TOTAL UNSCHED. IPL'S :   29 , AVG/DAY  :   0.97
                    DOWNTIME RATE IS     :  3.50 PERCENT OF SCHEDULED PRODUCTION HOURS
```

INTERACTIVE SYSTEMS RELIABILITY

The uptimes achieved for the month of June for each of APL and ATS were 98.86% and 98.89% of scheduled operation, respectively. The number of scheduled hours of operation during the month of June totalled 490. No unscheduled IPL´s were required as a result of the system failures. In addition to the scheduled time, Interactive Services were available for approximately 108 hours of unattended weekend operation.

The percentage breakdown of total S/360 downtime for June was: Hardware - 327 minutes (100%). The major events contributing to downtime were as follows:

June 5 - A total of 327 minutes of downtime was attributed to channel control checks in multiplexor. After scoping, a bad card at location 01B-C3G2 (DREG control gate) was replaced.

June 17 -APL abended as a result of data checks on one of the 2314 disc drives. The disc was moved to an alternate drive and APL restarted successfully.

Kam Jain

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UTCC COMPUTER EQUIPMENT

SYSTEM/370 MODEL 165-II

- located in SF103/105/112
- provides General Purpose Job Stream, High Speed Job Stream, APL SV and TSO services
- 4 megabytes of memory
- 1 drum (2301)
- 16 disk drives (3330)
- 8 disk drives (2314)
- 7 magnetic tape drives (5 9-track and 2 7-track)
- 6 display consoles
- 6 printers
- 5 card readers
- 1 card punch
- 8 remote batch terminals
- 1 paper tape reader
- Calcomp plotters (11" and 30")
- Gould plotter (11")
- OS/MVT with HASP

SYSTEM/360 MODEL 65

- located in McLennan Physical Laboratories
- provides APL and ATS services
- 1536K bytes of core
- 26 disk drives (2314)
- 3 9-track magnetic tape drives
- 1 printer
- 1 card reader
- 1 card punch
- 140 typewriter terminals
- OS/MVT with APL and ATS

COMPUTER RESEARCH FACILITY

- located in SF207
- DEC GT44 Systems with
  - 1 PDP-11/40 CPU
  - 2 9-track dual density tape drives
  - 1 1000 cpm card reader
  - VT17 graphics display unit
  - 1 lab. peripheral system with A/D & D/A
  - 1 CVI 260 Video Bandwidth Compressor
- DEC GT40 System with
  - 1 PDP-11/10 CPU
  - 1 2314 tape disk drive
  - 1 VT12 graphic display unit
  - 9-track/800 BPI tape drive
  - 1 Calcomp microfilm plotter

UTCC DIRECTORY

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Stan Yagi	SG200	7331
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Herb Kugel	SG304	7286
MANAGER, OPERATIONS		
Derry Cox	SF113	7092
SUPERVISORS, OPERATIONS		
Paul Scarborough (S/370-165-II)	SF114	6220
Kam Jain (S/360-65)	NP333	7374
Dave Wong (S/370-155)		6864
MANAGER, SYSTEMS		
Rein Mikkor	SF116	5058
SYSTEM HARDWARE SUPERVISOR		
Eugene Siciunas	SF113	4967
MANAGER, COMPUTER RESEARCH FACILITY		
Dennis Smith	SF214B	4800
LAB CO-ORDINATOR (CRF)		
Krishna Patnaik	SF207	4086
ACCOUNTS		
Ann DeFazio	SF139	7148
Wynona Bardgett	SF139	8702
ACCESS CODES		
Yvonne Bowen	SF139	8703
ASSISTANT MANAGER, INFORMATION SYSTEMS TERMINAL		
George Milo		5040

NOTE:

SF = Sandford Fleming
SG = 49 St. George
NP = McLennan Physical (New Physics)
SS = Sydney Smith

JOB AND SYSTEM STATUS QUERIES

SYSTEM/370, TSO	7373
ATS/APL	6234
2741 TERMINAL MALFUNCTIONS	7107
029 KEYPUNCH MALFUNCTIONS	6465

SERVICES

	DIAL-UP	ADVICE
APL - 2741	7200	6710
APL(ASCII)	7200	6710
APL SV - 2741	7239	6710
APL SV - TTY	7447	6710
ATS	7100	7107
TSO - 2741	7303	8599
TSO - TTY (10 cps)	7390	8599
TSO - TTY (30 cps)	7386	8599
DATATALK	6710	6710

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